

REMARKS

This Amendment is responsive to the March 15, 2011 Office Action. Claims 9 and 33 have been amended and claim 32 has been cancelled. Support for the claim amendments may be found, for example, in Fig. 3 and in the specification at pages 14 and 15. Claims 9, 12, 19-21, 23-31, and 33 are pending in this application. Claims 12, 19-21, and 23-31 have been withdrawn from further consideration.

Rejections Under 35 U.S.C. § 112, 4th paragraph

Claims 32 and 33 stand rejected under 35 U.S.C. § 112, 4th paragraph, for failing to further limit the subject matter of claim 9, from which claims 32 and 33 depend. The Examiner asserts that claim 32 requires “a heat exchanger provided between the internal combustion engine and the accumulator,” which eliminates the limitations in claim 9 of “a device transmitting a heat-input, and an accumulator, *the device and accumulator being connected to one another for the exchange of a hydraulic liquid*, where in the device transmitting a heat input is an internal combustion engine.”

Claim 9 has been amended to incorporate the subject matter of dependent claim 32 and to clarify the features that the Examiner asserted were improper. The manner of connection of the heat exchanger to create two distinct circuits was explained in detail in the Amendment dated February 20, 2011, at pages 6-7, and may be seen in Fig. 3 of the application. Applicant respectfully submits that claims 9 and 33 are in compliance with 35 U.S.C. § 112, 4th paragraph. Reconsideration and withdrawal of these rejections are respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 9 and 32 are rejected as being obvious under 35 U.S.C. § 103(a) over U.S. Patent No. 6,539,711 to Raychinov (“Raychinov”) in view of U.S. Patent No. 4,107,928 to Kelly et al. (“Kelly”), in further view of U.S. Patent No. 4,586,338 to Barrett et al. (“Barrett”). In view of following remarks, reconsideration of these rejections is respectfully requested.

Amended independent claim 9 recites, *inter alia*:

...wherein the connection between the internal combustion engine and the accumulator is via a heat exchanger, thereby creating a

combustion engine liquid circuit and a high pressure hydraulic liquid circuit.

The cited references fail to teach or suggest where the connection between the internal combustion engine and the accumulator is via a heat exchanger, thereby creating a combustion engine liquid circuit and a high pressure hydraulic liquid circuit as recited in independent claim 9. In Raychinov, the heat of the internal combustion engine (15) rotates the gas turbine (1) and operates the hydraulic pump (2) directly. There is no storage of pressurized liquid through the pressure of the heated liquid in Raychinov, let alone in the claimed pressure bottles. Heat is used in Raychinov for turning a turbine, whereas in the claimed invention a turbine would be used only as a generator or motor for the retardation unit, and for returning the stored energy to the combustion engine device. Kelly is relied upon to disclose a heat input device and an accumulator for the exchange of fluids, the device using a hydraulic motor for working the apparatus. Barrett is relied upon to disclose an internal combustion engine (12) and a heat exchanger (60).

However, the cited references, alone or in combination, fail to teach or render obvious a high pressure storage circuit for the heat of a combustion engine to be stored in conjunction with the retardation energy which is mechanically stored in the same device, via two distinct but cooperative systems. In particular, the cited references fail to teach or suggest the separation of a combustion engine liquid circuit and a high pressure hydraulic liquid circuit as in the claimed invention. As shown in Fig. 3, for example, the present invention includes two distinct systems overall, and with the separation of the first one by the heat exchanger, three systems. The first system in the present invention is the heat transferral system. The heat transferral system includes the low pressure-high temperature subsystem, including the first heat exchanger (24, 25) surrounding the combustion engine, the optional pump (80), and one half of the heat exchanger (79). The heat transferral system also includes the subsystem under pressure comprising the other half of the heat exchanger (79), the optional pump (77) and the reservoirs (65, 73), as well as the pressure bottles (60, 61, 62) as storage means for heat from the motor, via valves (64, 68). The second system of the present invention relates to the retardation input and output, and includes the hydraulic pump/motor (22), turning or turned by motor (21), which is

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connected to the bottles (60, 61, 62) (via valve 74) and the reservoir (65). The bottles (60, 61, 62) receive additional transformed energy through the heat transferral system.

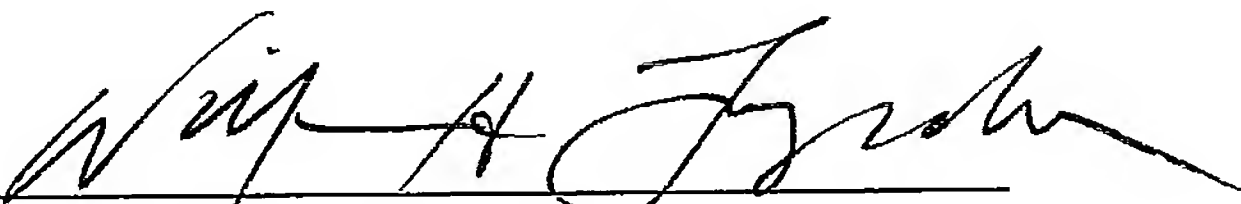
Therefore, for at least the foregoing reasons, the cited references fail to render independent claim 9 obvious. The Office Action does not address dependent claim 33, which is also believed to be in condition for allowance. Reconsideration and withdrawal of the rejection of independent claim 9 are respectfully requested.

CONCLUSION

For the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of the rejections and allowance of claims 9 and 33.

Respectfully submitted,

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